

DIPTERA FROM THE HEADWATERS OF THE GILA RIVER.— I.

BY C. H. TYLER TOWNSEND, LAS CRUCES, N. MEX.

The Rio Gila takes its head in the mountains of southwestern New Mexico, in northern Grant and southern Socorro counties. A short distance above the Gila Hot Springs, which are about forty miles by trail north of Silver City, the river splits into its three forks, known as the West Fork [sometimes called Diamond Creek], the Middle Fork, and the East Fork. These streams follow down small cañons, which wind up into the mountains. About fifteen to eighteen miles up the first there occur what are known as the Falls of the West Fork. Most of the West Fork collecting in diptera, as well as other insects, was done about two miles below the falls, where the permanent camp was made. It was all done in the bottom of the cañon, the elevation being probably about 7000 ft. Some collecting was also done on the East Fork, which was followed up past the D-D-Bar ranch, and out into the basin where, at the base of the Black Range, is situated the V-Cross-T ranch. The determinations of the East Fork diptera, as well as of further material from the West Fork, will appear in a second paper. All the specimens were collected by the writer, in July, 1894.

Chrysops ceras n. sp. West Fork. Six ♀s. Four of them taken July 10, about five miles above Gila Hot Springs; and the others July 16 and 17, about fifteen miles above, at camping place.

Length. $8\frac{1}{2}$ to $9\frac{1}{2}$ mm. Very near to *C. megaceras* Bell., and *C. tanyceras* O. S. From *C. megaceras* it differs in the presence of a cinereous border to mesoscutum and scutellum; all the tarsi excluding metatarsi, blackish; the rest of legs yellowish; antennal joints 1 and 2 yellowish-brownish, no yellowish vestiture on face; and in the yellowish-cinereous borders to abdominal segments. It agrees with *C. megaceras* in the shape and length of the antennal joints very closely, thus differing markedly from *C. tanyceras*, from which it further differs by the front and face being cinereous pollinose, shape of frontal callosity unlike an ace of spades, palpi mostly blackish but partly yellowish, a median linear vitta between the thoracic pair, and in other minor points. Both basal cells are wholly clear. The relative length of the antennal joints in *C. ceras* is about $3\frac{1}{2}$ (rarely 4) : 3 : $1\frac{1}{2}$ [sometimes $1\frac{3}{4}$]. The first and second joint seem sometimes to be almost equal, and the third is often only half as long as the second. It will thus be seen that this species goes a step farther in this particular direction of antennal development than does *L. megaceras*, which is the nearest species to it in this regard, next to *megaceras* being *tanyceras*. It may be noted also in this connection that these three species are all of a general brownish color, and have the wings obscurely clouded.

♀. Front clothed with grayish pollen which has a brassy tinge except near antennae, ocellar area brownish with a slightly fuscous tinge around it; frontal callosity brown, more or less rounded diamond-shaped, wider than long. Some black hairs on front. Antennae pale yellowish with a decided fuscous tinge, clothed with fine black hairs; third joint black or blackish-brown, pointed-conical, bulbous at base. First antennal joint in one specimen quite fuscous, second joint quite yellowish. Face yellowish clothed with gray pollen, with a yellow, brownish-yellow, or brownish callosity on each side, and a smaller black or blackish-brown one on each cheek. Palpi pale brownish, or brownish-yellow. Thorax soft brown, with a median pair of widely separated parallel brassy-yellowish vittae hardly reaching scutellum, an interrupted one also on lateral edge of thorax which is continued around edge of scutellum, the rest of latter being of the brown color of the thorax. Pleurae gray pollinose. The four yellowish-gray vittae of thorax leave the brown in the form of three rather heavy vittae. Abdomen soft rather dark brown, hind corners of first segment gray pollinose; hind borders of second to sixth segments brassy-yellowish, broader on sixth segment, prolonged anteriorly on median line in a pointed vitta not reaching front border of segment, this point being quite obsolete on sixth segment, seventh segment (as much as is visible) wholly brassy-yellowish. Legs yellowish; hips, knees, ends of tibiae, and all of tarsi brown or blackish, except metatarsi, only the distal ends of which are black. Knees sometimes without any black or brown. Venter wholly silvery-gray pollinose. Wings with fuscous clouds on stigmal area, on cross-vein at proximal end of first submarginal and first posterior cells, on cross-veins at distal end of discal cell (or bases of 2d and 3d posterior cells), on furcation of third vein, and at base of fourth posterior cell. Only a faint tinge of fuscous elsewhere,

becoming faintly yellowish on basal half of wing, and with an irregular whitish area on apical portion. Halteres soft brown, sometimes with a paler shade.

Chrysops facialis, n. sp. West Fork. July, 19. One ♀.

♀. Length, 8 mm. excluding antennae. Front fully one-third width of head, blackish or brownish, clothed with yellowish-gray pollen. Ocellar area oblong, black, polished, reaching nearly to the eye on either side, connected by a fuscous spot with the frontal callosity in front of it; latter shining polished brown, with a yellowish shade on front portion and a blackish shade behind, elliptical, about twice as wide as long. Antennae black, second joint about three-fourths as long as first and reddish on underside, first joint yellowish below and considerably so on sides. Front silvery pollinose in the narrow space between frontal tubercle and antennae. Face yellow, with silvery pollen at upper corners, yellow pollen in middle and down cheeks, a large shining black callosity on each cheek, and four shining brown callosities across middle of face. Palpi blackish-brown, lancets yellowish. Occiput grayish-brassy. Underside of head with whitish hair. Thorax shining black, with a pair of median yellowish-gray vittae separated by a brownish line, a black line on the outside of these, a grayish-brassy stripe on each side and two below on pleurae parallel with it. Thorax thinly clothed on dorsum and pleurae with yellow hair, thicker lines of which follow the lateral and upper pleural pollinose stripes. Scutellum shining black, faintly grayish pollinose, with yellowish hairs. Abdomen yellow, first segment with two large coalesced median black spots leaving only a dot of yellow on middle of hind margin, second and third segments each with a black marking formed by the coalescing anteriorly of two subrectangular spots which leave a median yellow angle invading the black marking behind,

fourth and fifth segments each with four of these sub-square black markings united along front border, sixth segment wholly black. Abdomen thinly yellow-hairy. Legs yellow, the hips, knees, ends of tibiae, and whole of tarsi black, except middle and hind metatarsi and next tarsal joint which are yellow, only the distal ends being black. Wings with the first basal cell more than half clouded proximally, the second basal cell less than half, the anal cell not at all except narrowly in distal end, the two basal cells being also clouded in distal ends. The distal ends of the marginal and first submarginal cells with an apical cloud, which extends into the second submarginal cell. The median broad black cross-band of wing invades slightly more than the proximal half of the first submarginal and first posterior cells, the whole of discal cell, less than proximal half of second posterior cell, about half of third posterior, all but the distal end of fourth posterior, and hardly the proximal half of fifth posterior, besides also the distal ends of the anal and basal cells as above mentioned. The clear portion of basal half of wing is whitish, except for the broad border of anal angle which is very faintly cloudy; likewise there is a white distal border to the middle transverse band, leaving the clearer portion of apical half of wing also very faintly clouded. Halteres yellow.

Eristalis latifrons Loew. Head of East Fork. D-D-Bar ranch. July 22. Three ♂s, and one ♀. Length, 10 to 12 mm. The ♂s are all the normal form, without cloud on the wings and with the lateral triangles of second abdominal segment distinctly yellowish. The ♀, however, belongs to the variety mentioned by me in Trans. Am. Ent. Soc., xxii, p. 49. It has the conspicuous cloud on the wings, and the triangles of second segment are pale

brownish, but showing yellowish on inner angle. The opaque interrupted fascia of third segment is obsolete in this specimen.

Chrysochlamys croesus O. S. West Fork. July 12. Two ♀s. Length, 10 to 11 mm. They agree well with Williston's description (Syn. Syrph.).

Dejeania corpulenta Wied. West Fork. July 16. One ♀. Length, 15 mm. The frontal bristles do not descend more than one or two below base of antennae. Ground color of head and thorax rich brassy-golden or pale old gold, the palpi several shades darker than head and thorax but still somewhat lighter than the reddish-yellow legs. Otherwise it agrees well with V. D. Wulp's supplementary description in Biol. C. A. Dipt., ii, p. 10.

Myobia gilensis n. sp. West Fork. July 16. One ♂. Length, 8 mm. Near *M. diadema* Wd., and *M. flavipennis* Wd.

♂. Face and front silvery-white, frontal vitta rusty-golden. Antennae yellow, distal half of third joint and all of arista dusky brownish. Third antennal joint two or three times as long as second. Palpi reaching nearly to epistoma, slender, yellowish. Proboscis slender, yellowish on basal half, dusky brownish apically. Front at vertex about one-sixth width of head, widened before base of antennae. Frontal vitta fully as wide as sides of front. Face receding, epistoma prominent. Cheeks and underside of head silvery. Occiput cinereous, golden near vertex. Thorax cinereous, humeri and pleurae more silvery. A very faint brassy shade to thorax, scutellum quite golden. Four strong bristles on margin of scutellum. Abdomen yellow, second and third segments with a

median longitudinal cinereous stripe, spreading out on hind border of third segment and covering fourth. No discal macrochaetae. Legs long, yellowish, tarsi black. Front tarsi considerably longer than front tibiae, but not nearly twice as long. Other tarsi

but little shorter than front tarsi. Wings clear, third vein with three or four bristles at extreme base. Tegulae saturate tawny, halteres yellow-white. Apical cell very narrowly open, ending but little before actual tip of wing.

A SOUTHERN RACE OF DATANA PERSPICUA GR. AND ROB. (VAR. MESILLAE).

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On July 20, 1896, Mr. Sherfey, our superintendent of schools, brought me great numbers of a larva on *Rhus canaënsis* (*aromatica*), which he had found in his garden in Mesilla, New Mexico. I was surprised to see that they belonged to *Datana*—a genus I had never before seen or heard of in New Mexico. On comparing them with the descriptions in Dr. Packard's recent magnificent monograph, I felt sure, from the concolorous hairs and other characters, that I had before me a variety of *ministra*, similar to, but not identical with, the var. *californica* (Riley). The larvae were 35 mm. long, and differed from the description of *ministra* by the dark reddish prothoracic shield; the base of the legs was dull crimson; head black; lines on body sulphur yellow.

On July 22, Mr. Sherfey brought me eggs and young larvae from the same bush, showing some irregularity in the broods. The eggs were laid in great numbers, touching, on the under side of the leaf; they were chalk-white, rounded, rather low, hardly shiny, not perceptibly sculptured, with the usual black speck. The young larvae were dark crimson with chrome yellow lines and black heads.

Mr. Sherfey kindly undertook to raise the moths for me, and they emerged in numbers at the middle of August. To my surprise, the moths were evidently not *ministra*, but

belonged with *perspicua* and *robusta*. Dr. H. G. Dyar, to whom I sent specimens, assures me that they are *perspicua*, slightly tending in the direction of *robusta*, but still unmistakable *perspicua*. A comparison with Dr. Packard's figures entirely supports this view, but the oblique streak to the apex of the primaries is almost or quite obsolete.

D. perspicua is a northern species, which does not appear to give off any southern segregates in the eastern U. S.; but in the Central Region we had already a very distinct offshoot, the *D. robusta* Strecker, 1872, found in the Lower Sonoran zone in Texas. Mesilla, as Prof. Townsend and the writer have shown elsewhere, is in the Upper Sonoran, and it is therefore not surprising that the representative of *D. perspicua* should be different from *robusta*, and more closely approximate to the type. That the modification is more marked in the larva than in the imago is interesting, but not surprising, considering that the moths are nocturnal, while the larvae are exposed in broad daylight, and doubtless possess warning colors.

It appears that *D. perspicua* has been taken by Prof. Gillette at light. In Mesilla, when the moths must have been emerging in great numbers, I never took any at light.

For this Mesilla race of *D. perspicua*, I will propose the varietal name *mesillae*.